Research Hotline

UPDATE FROM THE CUTTING EDGE

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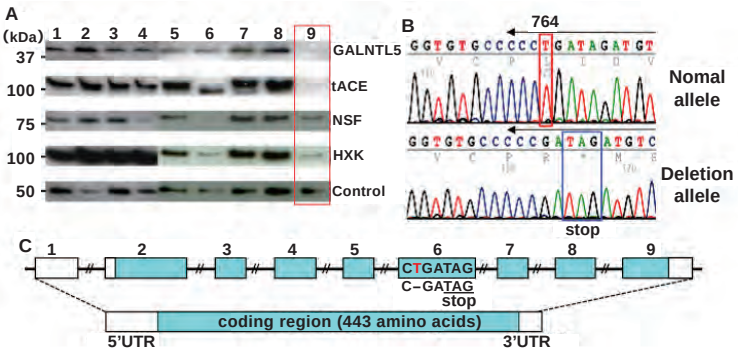
The abstracts of the recent research information appearing in Vol.14 No.7-9 of "AIST TODAY" are introduced here, classified by research areas. For inquiry about the full article, please contact the author via e-mail.

Life Science and Biotechnology

Discovery of gene that causes asthenozoospermia

A technology expected to assist selection of appropriate infertility treatment in the near future

We have discovered many new glycosyltransferase genes from the human genome and have elucidated the in vivo functions of the individual glycosyltransferase genes and their relationships to various disorders. *GALNTL5* was one of the discoveries; however, its function had been unclear for ten years due to lack of the enzyme activity as a glycosyltransferase. As mice have a gene homologous to human *GALNTL5*, the study was conducted on mice with mutated *Galntl5* gene aiming to identify the in vivo functions of the GALNTL5 protein. It was found that heterozygous *Galntl5*-deficient male mice become infertile with symptoms similar to human asthenozoospermia, and that this gene is essential for normal spermatogenesis. A patient diagnosed with asthenozoospermia, one of the causes of male infertility, has been found with a mutation of the *GALNTL5* gene. These results will contribute to the development of methods to judge precisely the cause of male infertility.



A case of human GALNTL5 mutation in asthenozoospermia patients

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